

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 6-11 pending.

I. Claim Objection

In the Office Action, at page 2, claim 9 was objected to because of informalities. Claim 9 was amended in light of the Examiner's comments, and accordingly, withdrawal of the objection to the claims is respectfully requested.

II. Rejections under 35 U.S.C. § 103

In the Office Action, at page 2, numbered paragraph 4, claims 6-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,603,753 to Bedekar et al. in view of U.S. Patent No. 7,145,896 to Sebire. This rejection is respectfully traversed because the combination of the teachings of Bedekar and Sebire does not suggest:

allocating resources to a subscriber by jointly considering allocation conditions at first and second interfaces, the first interface being between a subscriber station and a first network node and the second interface being between the first network node and a second network node, the resources being allocated by:

considering a data rate and transmission characteristics requested by the subscriber at the first interface;

determining a value to the subscriber, the value to the subscriber being defined as the quotient from an actual data rate and the data rate requested by the subscriber;

determining a value to all subscribers, the value to all subscribers being defined as the minimum of the quotients for all subscribers, from the actual data rate and the data rate requested by each subscriber; and

maximizing the value to all subscribers using an optimization process,

as recited in independent claim 1.

Bedekar discusses that a base station of a CDMA system employs scheduling of data transmission signals to corresponding user transceivers in down-link channels of a data network. Bedekar further discusses that each data user may have a minimum data rate requirement that is desirably satisfied. Bedekar discusses that a CDMA telecommunication system cell 100,

which includes a base station 101 and voice and data users, can operate in accordance with prior art methods of resource management.

First, Bedekar does not discuss or suggest allocating resources to a subscriber by jointly considering allocation conditions at first and second interfaces, the first interface being between a subscriber station and a first network node and the second interface being between the first network node and a second network node. In contrast to the present invention of claim 6, for example, Bedekar does not discuss two transmissions – the first between a subscriber and a base station, the second between the base station and the next unit further up the communication line. While Bedekar discusses operating in accordance with resource management, Bedekar does not discuss or suggest allocating resources to a subscriber by jointly considering allocation conditions at first and second interfaces, where the first interface is between the subscriber and the first network node and the second interface is between the first network node and a second network node. Bedekar includes no discussion of considering allocating conditions at both the first and second interfaces.

Further, Bedekar discusses the data rate available to data users and that subscribers close to the base station have a better transmission rate compared to subscribers near the edge of the CDMA cell. However, Bedekar does not discuss or suggest that a value is determined to the subscriber, the value being defined as the quotient from an actual data rate and the data rate requested by the subscriber, and does not discuss or suggest that a value is determined to all subscribers, where the value is defined as the minimum of quotients for all the subscribers, from the actual data rate and the data rate requested by each subscriber. Thus, the present invention of claim 6, in contrast to Bedekar, serves all subscribers with the same fraction of the requested data rate (i.e., W/R is constant for all subscribers), thereby giving all subscribers a fair share.

Bedekar particularly discusses a minimum data rate requirement for each data user. However, Bedekar does not suggest determining a value to all subscribers which is the minimum of the quotients for all the subscribers. Bedekar does not discuss a minimum for the quotient from an actual data rate and a data rate requested by the subscriber.

In addition, Bedekar does not suggest then maximixing the value to all subscribers using an optimization process. Col. 5, lines 19-21 discusses reformulating equation 1 of Bedekar.

Further, as conceded by the Examiner, Bedekar does not suggest that a second interface is between a first network node and a second network node. The Examiner indicates that Sebire makes up for the deficiencies in Bedekar. The Applicants respectfully disagree.

Sebire discusses a method for transmitting data on a packet data channel. Sebire shows a GSM radio access network and a GPRS core network, but does not discuss or suggest allocating resources to a subscriber by jointly considering allocation conditions at first and second interfaces, where the second interface is between a first network node and a second network node. Sebire does not suggest that allocation conditions are considered at a first interface and at a second interface. Sebire discusses only that base station 102a is connected to the base station controller 103, which can communicate with a SGSN 104 of a GPRS core network. Sebire does not discuss or suggest that allocation conditions are considered, in allocating resources, at both a first interface between a subscriber station and a first network node and a second interface between the first network node and a second network node.

Additionally, the motivation cited of “provid[ing] a gateway for data transfer” does not suggest why one of ordinary skill in the art would have been led to combine the features of Bedekar with the data transmitting method of Sebire to suggest all the features of claim 6, for example, particularly with respect to allocating resources to a subscriber by jointly considering allocation conditions at first and second interfaces.

Therefore, as the combination of the teachings of Bedekar and Sebire does not suggest “allocating resources to a subscriber by jointly considering allocation conditions at first and second interfaces, the first interface being between a subscriber station and a first network node and the second interface being between the first network node and a second network node, the resources being allocated by: considering a data rate and transmission characteristics requested by the subscriber at the first interface; determining a value to the subscriber, the value to the subscriber being defined as the quotient from an actual data rate and the data rate requested by the subscriber; determining a value to all subscribers, the value to all subscribers being defined as the minimum of the quotients for all subscribers, from the actual data rate and the data rate requested by each subscriber; and maximizing the value to all subscribers using an optimization process,” as recited in independent claim 6, claim 6 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Claims 7-9 depend either directly or indirectly from independent claim 6 and include all the features of claim 6, plus additional features that are not discussed or suggested by the references relied upon. For example, claim 7 recites that “the subscriber, for transmission over the first interface, is allocated one of a plurality of coding schemes and one or more packet data channels, and the subscriber, for transmission over the second interface, is allocated one or more time slots, based on a relationship between the number of time slots allocated at the

second interface and the coding scheme allocated at the first interface." Sebire does not discuss or suggest the relationship between the first and second interfaces, but discusses only the various coding schemes used in EDGE and GPRS. In contrast, the present invention of claim 7, for example, involves the relationship between the first and second interfaces. As to claim 8, Sebire discusses the data rate for one channel, but does not discuss a number of data packet channels allocated to one subscriber. As to claim 9, Bedekar desires to satisfy the minimum data rate for each subscriber, i.e., it can be undershot. In contrast, claim 9 recites that "at least a portion of the subscribers each have a minimum data rate pre-specified which is not to be undershot for data transmission." Therefore, claims 7-9 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

In the Office Action, at page 6, numbered paragraph 5, claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bedekar and Sebire, and further in view of U.S. Patent No. 6,038,223 to Hansson et al. This rejection is respectfully traversed.

As discussed above, the combination of the teachings of Bedekar and Sebire does not suggest all the features of independent claim 6, from which claims 10 and 11 ultimately depend. Hansson fails to make up for the deficiencies in Bedekar and Sebire. Hansson discusses the assignment of PDCH channels and the appropriate timing for multiplexing for the usage of these channels by more than one user. Claim 10, for example, recites that "a check is made on the number of packet data channels allocated to the subscriber, for a not necessarily true subset of all combinations of contiguous packet data channels which correspond to the number of packet data channels allocated, an allocation is investigated for the subscriber and the value to all subscribers is determined, and the number of contiguous packet data channels allocated to the subscriber is set to the number of contiguous packet data channels that maximizes the value to all subscribers." Hansson and Sebire do not suggest setting the number of contiguous packet data channels that maximize the value to all the subscribers within the cell. Therefore, claims 10 and 11 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Conclusion

In accordance with the foregoing, claims 6-11 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

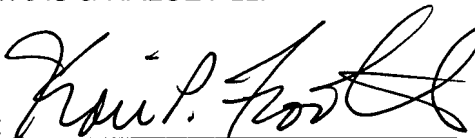
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 11/13/07

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